RESEARCH PAPER

Incorporating Agency Perspective into Community Forestry Analysis

Hideyuki Kubo

Abstract This research examines community forestry processes at three case study sites—in Nepal, Indonesia and Thailand—from various analytical approaches, including rational choice, culture and social relations, socio-politics, learning process and agency. It is argued that although community forestry analysis from the agency perspective has not been popular, it involves distinctive characteristics in the interpretation of community forestry processes, that is, this approach considers actors in a disaggregate manner while others usually treat actors in an aggregate manner. Human agency makes a difference in community forestry evolution processes in a way that an agent realizes goals and values by effectively shaping the acts of oneself and others. Hence, analysing community forestry processes by the lens of the agency perspective at the local level leads to the identification of critical factors that are not captured through other approaches—ones that actually play important roles in community forestry processes.

Keywords Rational choice · Social relationship · Socio-politics · Learning process · Cost-benefit calculus · Collective action

Introduction

In the context of tropical regions, community forestry[1] has gained global attention as an effective approach for livelihood security of rural people in forested

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[1] In this paper, the term 'community forestry' refers to forest resource use and management by local people in a collective manner. It consists of both informal and formal arrangement and involves various notions such as joint forest management and collaborative forest management. While the definition of

H. Kubo (✉)
Bagong Pagasa Foundation, 445 Bulusan Lane, Marian Lakeview Park, Paranyaque,
Manila 1700, Philippines
e-mail: rainforest@access.inet.co.th

landscapes, as well as for resource sustainability. Dominant discourses in academia conceptualize community forests as 'commons', and their management as an act of collective action. Scholars focus on local institutions as a key element of community forestry (Ostrom 1999), and analyze its constraints and opportunities through political and economic perspectives (e.g., Edmunds and Wollenberg 2003; Scherr et al. 2004). While such conceptualizations and perspectives have contributed to the understanding of community forestry, they do not shed sufficient light on the role of particular individuals and their initiatives in dealing with resource concerns that occasionally play important roles in the real world of community forestry at the local level. As Bliss and Kelly (2008) pointed out, human attributes can make a substantial difference in small-scale forestry. Factors of individual initiatives, and personal agency that gives rise to such initiatives, have however not been sufficiently incorporated in the contemporary analysis of community forestry.

Against this background, this paper aims to demonstrate that human agency at the local level is one of the key attributes that can make a difference in community forestry processes and, in some cases, better explain the success and failure of the processes. The intention of the paper is not to reject dominant discourses in this area, but to emphasize the significance of agency of particular individuals and their initiatives in a community. The paper is organized as follows. First, various analytical approaches of community forestry are reviewed and the concept of agency is described. Second, three case studies are presented to illustrate how human agency actually shapes community forestry processes in various contexts, and each of the case studies is analyzed from multiple approaches, including that of agency. Finally, the implications of this analysis, in terms of community forestry intervention, are discussed.

Analytical Approaches of Community Forestry

Over the last several decades, natural resource researchers have examined community forestry analyses through various perspectives. Despite their diversity in analysis, it is possible to identify major analytical approaches as the following categories: rational choice; culture and social relationship; socio-politics or political economy; forest use and livelihood; and learning process (or action research). These approaches are not clearly demarcated and some analyses do not fall neatly into the categories; however, they serve as a framework for classifying community forestry analyses.

The rational choice approach assumes that individuals weigh expected benefits and costs in making decisions (Ostrom 1990). Their cost-benefit calculus is not

Footnote 1 continued
community forestry has already evolved to a broader concept that includes the scope of enterprise development and national policy processes (RECOFTC 2008), the paper adopts a narrow definition to focus the discussion at the local level.

limited to short-term economic effects, but also incorporates the long-term net effects of cooperation that individuals are convinced to hold through social interaction (Ostrom 1998). Based on this assumption, a number of scholars have examined factors that affect cost-benefit calculus of individuals and function for the creation and durability of community forestry institutions (Agrawal and Ostrom 2001; Gibson 2001; Varughese and Ostrom 2001; Adhikari and Lovett 2006). The culture and social relationship approach assumes that individual calculus is bound by socially and politically embedded local institutions rather than the calculus being made independently of the local context (Peters 1987). For example, a community institution in Mexico reflects cultural norms concerning individual and communal rights to land when they operate community logging (Klooster 2000), and economic decision-making of rural villagers in Nepal is embedded in social relations of patron-client ties among various social groups (Fisher 1994).

The socio-politics (or political economy) approach examines how community forestry at the local level is affected by external political and economic forces or relationships among concerned actors. One popular analysis is to assess impacts of decentralization and devolution policies at the local level. Many scholars argue that these policies do not produce positive impacts at the expected level, because many reforms have not been properly executed or even designed (Edmunds and Wollenberg 2003; Colfer and Capistrano 2005; Ribot et al. 2006; Sikor and Nguyen 2007). Other emerging analyses include: the examination of negotiating processes among internal and external actors and the identification of a new governance structure that evolves as a result (de Jong et al. 2006; Wollenberg et al. 2006; Yasmi et al. 2007; Benjamine 2008); the mechanism of compensation by external actors for forest conservation communities (Wunder et al. 2008); and the potential linking of the community tenure of forests with a financial mechanism under the climate change framework (RRI 2008).

The forest use and livelihood approach explores how rural villagers actually manage, use and conserve community forests and the impact of forest use on livelihoods. Topics vary such as community conservation, indigenous forest management and utilization of particular forest products (Stoian 2005; Bajracharya et al. 2006; Stave et al. 2007; Kusters et al. 2008). The learning process or action research approach aims to produce knowledge on how successful community forestry processes are actually developed and what factors are conducive to the successful processes. Although experiments are still limited, research findings inform that accommodating collaboration and social learning among actors is essential for successful community forestry processes to be developed. Further, to accommodate appropriate collaboration and social learning in the processes, the involvement of a skillful facilitator is often indispensable (Colfer 2005; Fisher et al. 2007; Guijt 2007; Evans et al. 2008).

Agency Perspective as Analytical Approach

Although some of the above analyses recognize the importance of leadership and individual initiatives in community forestry processes, the agency perspective has

not sufficiently emerged as one of major analytical approaches of community forestry in contemporary academic discussions. In human societies, individuals may have their own goals and values that they have reasons to pursue (Sen 1992). If individuals are sufficiently knowledgeable and skilful, their actions of pursuing goals and values can make a difference in the intervention of the society (Giddens 1982). The implication is that the presence of agency causes community forestry processes and outcomes to differ, and explicit focus on the agency perspective must provide additional value and different understanding to the above community forestry analyses.

In this paper, the term 'agency' refers to the knowledgeability and capability of individuals who shape their own and others' actions to realize their own goals and values. All actors possess agency to some degree, and no actor has total, unconstrained agency (Dietz and Burns 1992). Agency can be recognized ex post through its effects and is only effective through social relations (Long 2001). This is critical because what an agent, an individual, or a group of individuals who holds agency can do is to articulate desires for target groups, and what actually happens will depend upon the responses evoked in these target groups (Stacey 2007).

While the agency analysis at the local level focuses on acts of respective individuals who hold agency in communities, this does not indicate the analysis is irrelevant for macro- or meso-level structures. Particular types of agency may spontaneously and simultaneously emerge in several communities that are situated within similar structural and cultural spheres (Krishna 2003). In such cases, the role of agency in community forestry processes can also be analyzed from socio-politics or cultural perspectives as meta-analysis. For example, Krishna (2001) adopted the socio-politics perspective as a meta-analysis framework in order to understand how agency functioned in development processes at the regional level and suggested that one of the roles of agency is to link local and external actors so that local social capital can become effective for positive development performance.

The Study Sites

In this section, case studies on community forestry processes are presented and analyzed from multiple perspectives. The data used for this paper were collected at three community forestry sites, located in Nepal, Indonesia and Thailand. These sites have distinct characteristics in terms of geographical condition, religion, household economy, community size, resource type and legal framework (Table 1).

The site in Nepal is located in the Middle Hills region of Central Nepal and consists of about 100 households in one settlement. This area is characterized by a mature sal (*Shorea robusta*) forest, which provides villagers with daily consumption needs, including animal fodder and fuelwood as well as high quality timber for construction.

The Indonesian site is located at the foot of a mountain corridor in West Java that is designated as a national park. The site consists of a single settlement with 33 households. The main livelihood sources are paddy fields—harvested twice yearly—and upland farming including swidden agriculture, with many of the farms

Table 1 General characteristics of case study sites

Characteristic	Nepal site	Indonesian site	Thailand site
Location	Middle hills	West Java	Eastern coast
Local religion	Hindu	Islam	Buddhism
Major household economy	Subsistence	Subsistence commercial	Commercial
Number of households	About 100	33	About 170
Resources	Mature sal (*Shorea robusta*) forest	Secondary forest, grassland	Mangrove forest, marine resources in mangrove area
Legal status on management	State then devolved	State	State

and local forests located within the national park area. Although extractive land use is prohibited in the national park, which is managed by the national park office of the Ministry of Forestry, villagers cultivate cash crops including chilies and tomatoes. The national park office launched a co-management pilot experiment at the site in April 2005 in order to explore pertinent institutional arrangement for forest conservation and rural livelihood.

The Thailand site is located along the eastern coastline near the Cambodian boarder, and contains about 170 households. Primary livelihood activities include small-scale fishing, shrimp cultivation and orchard management. Mangrove forests are spread along the coast and local residents benefit from both forest and marine resources in this area. Although the government has exclusive resource ownership, villagers utilize mangrove forests based on their own management plan that was developed with the technical assistance of a Bangkok-based NGO.

Site selection was based on the following criteria: community forestry processes were taking place; the community was characterized by successful experiences of collective action in forest management; external persons who were familiar with the local community at the outset of this research were available; and access to the community was not physically difficult.

Research Method

This research adopts a qualitative approach to explore how community forestry processes took place at each site, what key roles particular individuals played in the processes, and how external conditions affected the processes. Field surveys were undertaken at each of the three sites several times between 1999 and 2006, which enabled the author to observe and understand transformation of institutional arrangements and the structure of local resource governance. Survey methods included: open-ended interviews with leaders and active villagers in forestry and community affairs; semi-structured interviews with randomly selected male and female villagers; open-ended interviews with officers at local and central

government offices, as well as with NGO staff; observations at village meetings; field walks in local forests; and the collection of documents from relevant offices.[2]

Data analysis was performed in the following steps. First, among the data collected in the field, their relevance to the agency perspective of community forestry processes was analyzed, and phases in which agency seemed to play a prominent role were identified. The prominence of agency was found only at some phases of community forestry processes at each site, and this discussion is focused on the issues and processes in which agency took a prominent role. Second, these issues and processes were examined through the lens of various analytical approaches, including that of agency.

Community Forestry Processes at the Study Sites

In this section, a particular process of community forestry evolution at each site is illustrated, and is interpreted through four or five analytical approaches, depending on the suitability of respective approaches for each case in order to identify reasons for the particular process evolution. These reasons can vary, even for the same processes, due to the analytical approach adopted. The respective interpretations focus only on some aspects of the processes that are fitted to the adopted analytical approach. In the descriptions, the term *agent* is used to refer to a person who held agency and initiated some phases of community forestry processes.

Conservation of Sal Forest at the Nepal Site

For many years since initial settlement more than 200 years ago, the sal forest was under the control of the Brahman families and was used for subsistence purposes including supplying fuelwood, construction materials and even fodder. There was once a violent conflict over the possession of the sal forest between the Brahman and Newar families—the latter families coming to the village a couple of decades after the Brahman settled—but they eventually agreed to share the use of the sal forest. The situation changed when the Department of Forest set up a local office in the village in the 1970s in order to control the sal forest under the *Private Forests Nationalization Act* of 1957 and *Forest Act* of 1961. The villagers' claim to the forest was suddenly denied, and the office required them to obtain prior permission for any resource use, even firewood collection, and to pay a forest tax on the harvest. The presence of the office functioned to decrease local resource control and the villagers had already lost sense of forest ownership when the office was closed within 2 years. Uncontrolled harvest of forest products then prevailed, although at least one villager of the Brahman families, the *agent*, warned that the sal forest should be conserved, because it was an asset of the village. In 1981, a timber broker from an outside town conducted a large-scale logging operation in the sal forest.

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[2] Intensive field survey was conducted under the following schedule: Nepal site (Jun.1999 and Jan.-Feb.2003); Indonesian site (Jun.2005 and May 2006); and Thailand site (Oct., 2000 and Feb.–Mar., 2003). Additional short visits were made at various times to the Indonesian site (between Jun., 2005 and May 2006) and the Thailand site (between Oct., 2000 and Dec., 2001).

The *agent* felt that they would lose the sal forest unless the operation stopped, and persuaded the leaders of both families to take action against the operation. The agent and leaders went to the regional headquarters of the forest department and met with the District Forest Officer (DFO). The negotiation was successful, with the DFO acknowledging the logging as illegal and stopping the operation.

Upon the termination of the incident, the *agent* began forest-patrolling work with his two neighbours to prevent any logging attempts by outsiders. Although most villagers did not join the patrolling at the beginning, the DFO provided support for the operations of the *agent* and the number of participating villagers steadily increased. In 1982, village leaders decided to form a committee to organize systematic patrolling. The committee consisted of 11 people who were the leaders and prominent persons from both the Brahman and Newar families, including the *agent*, and the committee assigned two member households for the patrolling work each day. Villagers other than the Brahman and Newar families were not included in the committee because their access to the sal forest was not accepted by either of the families. Members of Brahman and Newar families continued the patrolling work, bearing in mind, by the *agent* in particular, that they would negotiate with the forest department for returning the sal forest to local management. Responding to repeated calls from the committee, beginning in 1991, the forest department conducted forest surveys, and then decided to transfer management rights to a local organization in 1993. The villagers' committee was dissolved, and a formal forest user group was formed under the *1993 Forest La*w. The new user group was provided with the formal right to punish unauthorized resource use and impose penalties on offenders. All of the households in the village, including non-Brahman Newar families, became members of the forest user group.

The above story can be interpreted in the following manner:

- Rational choice: Forest resources are a critical part of the livelihood system, and the villagers assumed that resource depletion, as an outcome of the large-scale logging operation, would inevitably lead to livelihood difficulty. Hence, their calculus was highly positive for taking collective action to terminate the operation. When the *agent* initiated voluntary patrolling work in the forest, however, most villagers did not see the need to bear the patrolling cost because there was no further threat against the forest.
- Culture and social relationship: A history of two dominant family groups living together over 150 years has created embedded social interdependence. When the government directly enforced forest nationalization policy in the village, the norm of forest use was effectively disrupted; however, embedded interdependent relationship persisted. Although most of the villagers initially did not see the benefit of joining forest-patrolling work, the leaders soon realized that their fellow villagers were doing the right thing for the village and felt the need to support the work. This led to the formation of the committee.
- Socio-politics or political economy: While the local office of the forest department operated in the village, the forest nationalization policy disrupted the local forest regime and the forest was placed under the control of the government. The closure of the local office led to an open-access regime in

which both broker-led illegal logging operations and local conservation movements emerged. The DFO supported the conservation movement and transferred the forest management to a local organization under *1993 Forest La*w, which enabled community forestry evolution to take place.

• Agency: The agency view provides a clue on why only the *agent*, not others, took an initiative for the patrolling work at the beginning. In an open-ended interview, the *agent* emphasized both how he loved the sal forest and the importance of forest resources for the villagers' livelihoods. The forest held intrinsic value that he had reasons to protect. Thus, patrolling work for forest conservation was viewed as almost costless. Furthermore, he had the capacity to pursue this conservation value, as demonstrated by his act of persuading local leaders to take action and by his strategic thinking to negotiate with the forest department for the devolution.

Addressing a Water Shortage Problem at the Indonesian Site

At the Indonesian site, the small size of the settlement and kinship relationships among all the households, by either blood or marriage, has enabled the community to develop a system of shared cultural meanings and values. Major decisions regarding community affairs are usually made by three village leaders, through consensus, and other villagers then follow the decisions. Hence, collective action is frequently observed, for example, in road construction and farming practices. Before the co-management pilot project was launched in April 2005, villagers were engaged in swidden agriculture in the forestland and foresters of the national park office suspected that the villagers were engaging in illegal swidden agriculture and logging operation within the park area. This attitude created a negative image of villagers against the foresters and made both actors distrust each other. The situation changed when one forester began visiting the village frequently for implementing the pilot project. The forester eagerly communicated with the leaders, and the communications enabled the forester to realize that the village leaders were willing to manage local forests themselves and could not accept strict law enforcement, which implied closure of existing farmlands within the park area. To obtain support for the project implementation from the villagers, the forester recognized the need to accept their tacit demand, otherwise the villagers would resist against the pilot project. At a community meeting, the forester conveyed the message that the villagers could continuously cultivate current farmland within the park area, although the opening of new farmland was strictly prohibited. This message relieved the villagers of the risk of farmland closure and fostered a sense of trust in the forester.

During the village meetings, the forester also talked about the roles of forests in the security of water flow in streams. One of three leaders, the *agent*, captured the message on water security as critically important. At villages along the mountain corridor, it became evident by late 1990s that water flow in streams decreased and some paddy fields had to be abandoned due to lack of water supply at the time of transplanting. Because of this experience, the *agent* thought that forest degradation

would have caused the water shortage and that they needed to conserve the forest for the protection of paddy fields, which was critically important for the livelihood of the village. He shared the idea with other leaders and a consensus was reached among them as well as with other villagers to refrain from opening new swidden farms in the forest to conserve water. Furthermore, the *agent* initiated planting activity on the degraded land within the watershed area for the purpose of rehabilitating the forest ecosystem. All the households participated in the event. While socioeconomic and environmental conditions were similar around the mountain corridor, it was only at this case study site where villagers took concrete actions toward forest conservation. At the neighbouring villages, the leaders felt similar concern about water shortage; however, their concern did not lead to practical actions including an attempt at forest rehabilitation.

The above story can be interpreted in the following manner:

- Rational choice: In the past, the cost-benefit calculus of land use did not include the ecosystem factor, so that the local forestland was the target of swidden farming. The situation changed when the villagers comprehended the value of forest in the maintenance of water flow for their paddy fields. They modified the calculus formula in such a way that the potential benefit of forest conservation for village livelihood became larger than the cost incurred through the prohibition of cultivation within the watershed area. In the case of neighbouring settlements, however, the villagers did not increase the value of the forest, so their calculus remained unchanged.
- Culture and social relationship: Kinship relationships among the villagers that fostered shared meanings and values enabled them to respond to the water scarcity problem as a collective action. All of the villagers understood the issue and followed their leaders' decision of no more clearance of existing forests and rehabilitation of the forest ecosystem within the degraded land.
- Socio-politics or political economy: During the last decade, the government of Indonesia has introduced a participatory approach in national park management on a pilot project basis. This approach has enabled the field forester to communicate with villagers rather than watching and punishing them, and this created a new social space in which the forester recognized the need to accommodate the local practice of continuous farming of existing farmlands, and the villagers realized the requirement of forest conservation for their livelihood security.
- Learning process: The distrust between villagers and foresters that existed prior to the pilot project was removed through the frequent and open communications between the two actors. The forester acknowledged the requirement of existing farmlands for the villagers' livelihood security, and the villagers realized the forester was serious about the forest conservation. This mutual understanding and learning enabled both actors to take collective action that entailed recognition of continuous cultivation at existing farmlands and prohibition of new forest clearance.
- Agency: The *agent* held a clear vision for the welfare of his community and a capacity to develop various initiatives for that purpose. For him, any issue

relevant to local livelihood was his work, so that addressing the issue on water shortage was what he had to do, regardless of the nominal costs involved. The *agent* and other leaders shaped the perspective of the forester so that he recognized the needs of the villagers. The leaders at the neighbouring villages had similar understandings concerning the water issue but they did not have the capacity to materialize the work.

While the *agent* played a prominent role in the process of community forestry evolution, there is a high probability that collective agency existed in this case. The field data indicate that other leaders also developed and shared the will and idea of the *agent*, even though the degree of their capacity was not equivalent to that of the *agent*. The implication is that the villagers at the Indonesian site would have been likely to take a similar course of action even without the *agent* because all of the leaders held similar agency. The presence of collective agency can be attributed to two factors: (1) the small size of the settlement and kinship relationships among all the households, and (2) the general characteristics of rural Java that have maintained relatively homogenous socioeconomic conditions and a strong capacity for collective action (Geertz 1963).[3]

Recovering the Resource Base at the Thailand Site

The richness of natural resources around the mangrove forest at the Thailand site was well known, and fishing boats from neighbouring villages frequently came to harvest fish and mangrove trees during mid-1990s. Many boats included a push-net, the use of which was prohibited along the coastline due to the damage it caused to the seabed. Villagers had realized that the use of push-nets damaged mangrove forest so that the village head formed a group for resource conservation in 1998. The group arranged a voluntary patrolling activity against push-net use around the mangrove forest, which was actively implemented by the vice chairperson of the group. He was a fisher and had conducted various experiments for sustainable resource management, including 'crab banks.'[4]

Upon their success in blocking resource harvest by push-net installed boats, in 2000 the group began communicating with one neighbouring village in order to persuade its fishers to change their practices from exploitative push-net fishery to sustainable resource management. The communication was initiated by one of the group members, the *agent*. Although the *agent* was not a fisher, he grew up locally and could recall how the marine resources were rich when he was a child. With this memory, he perceived resource degradation and felt the need for a fundamental solution to the problem instead of a more tentative 'band-aid' approach of blocking

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[3] Scholars argue that homogenous characteristics in rural Java were developed due to the existence of a dual economy during the colonial period (Geertz 1963), and the capacity for collective action was strengthened through the state intervention in a village during the post-independence period when the state mobilized a voluntary labour force for local public work (Bowen 1986).

[4] A 'crab bank' is a cage installed along a canal within the mangrove forest. Those fishers who catch female crabs with eggs are requested to donate the crabs to the bank so that they can bear the eggs in the forest.

exploitative fishing. Unless the resource bases of neighbouring villages were improved, he thought that fishers would always look for opportunities to exploit other resource bases. Thus the *agent* took action to persuading neighbouring fishers to take sustainable resource management practices, rather than simply blocking their exploitative resource harvest.

Through their communications, the *agent* and members of the conservation group found that local marine resources were being degraded at the neighbouring village. They had discussions with the head of the neighbouring village and fishery leaders on issues of exploitative fishing and sustainable management including the 'crab bank' practice. According to the *agent*, the head of the neighbouring village and some fishers quickly captured the meaning of the conversations but the majority of the fishers remained skeptical. The situation changed when the head of the neighbouring village organized a seminar in which a fishery expert spoke to the villagers. She persuaded the skeptical fishers to attend the seminar, saying that they could obtain information from the expert on how to cope with police when they were captured for illegal push-net fishing. The neighbouring village head observed that the behaviour of the fishers changed following their attendance at the seminar: they started discussing the impact of push-nets on the seabed and the protection of fish spawning locations. The fishers in the neighbouring village then decided to dismantle the push-nets on their boats. Through a series of communications, which took place over a one-year period, the *agent* and the members of the conservation group came to understand the willingness of the neighbouring villagers to participate in conservation as well as their wish to continue fishing at the case study site, where resources were rich. The villagers of the site allowed the neighbouring villagers to fish in the area of their village with the condition that push-nets were prohibited and that only fishing nets with rough mesh should be used in their operations.

The above story can be interpreted in the following manner:

- Rational choice: The cost-benefit calculus of individuals for blocking the push-net use was positive for the villagers at the site because no action would result in degradation and depletion of local natural resources, which would directly affect their livelihood.
- Socio-politics or political economy: Due to a lack of law enforcement against illegal fishing at the site, an anarchical situation, or unrestricted political space, emerged in which fishers used illegal push-nets along the coastal line of the village. Local actors voluntarily entered into the negotiation process to find a solution within this open political space and reached a consensus on a collaborative arrangement that was mutually beneficial.
- Learning process: Even though there was no external facilitator involved in the negotiation, the communication process between conflicting actors of the site and neighboring villagers continued over the period of 1 year. Through the communication process, the skeptic fishers understood the problem of push-net use and agreed to change the practice, and the villagers of the case study site realized the interest of the neighboring village fishers in fishing near the site and accepted their request to fish there.

- Agency: Because the *agent* held a firm conviction and clear vision for resource conservation due to his past memories of rich resources in the area, the potential costs involved in conservation work were negligible for him, unlike other villagers. Hence, the *agent* was actively engaged in the negotiation process through which he successfully shaped the thoughts and action of the village head and fishers in the neighboring village to satisfy his own values and goals.

Agency Roles and Agency Perspective in Community Forestry Processes

The above case study analyses raise two distinct themes, one of agency roles in community forestry processes and the other of the agency perspective vis-à-vis other approaches in community forestry analyses.

Common Features of Agency Roles

The findings of the case studies presented here indicate that the *agents* have taken prominent roles in the community forestry processes occurring at each site. While each site has distinct characteristics, as indicated in Table 1, and the processes are all different, the community forestry processes at these sites share several common features from the agency viewpoint.

First, the formal structure of local resource governance at each site was a deterrent against the acts of the *agents*; namely, no legal framework existed to accommodate community management of forest resources. However, the *agents* took an initiative beyond the existing formal structure so as to materialize socially desired transformation on local resource governance. At the Nepal site, villagers lost a sense of ownership of local forest resources due to the nationalization of forests, but the *agent* initiated forest patrolling work to prevent degradation of the sal forest. At the Indonesian site, the government did not recognize tenure rights of local forest resources, and villagers did not pay attention to forest conservation and sustainability but were engaged in the clearance of forests for agricultural purposes. However, upon the recognition of the forest-water linkage, the *agent* initiated a change in land-use patterns in order to help ensure future water conservation for paddy fields. At the Thailand site, due to the failure of law enforcement, fishers were engaged in exploitative fishery by using push-nets in mangrove forest, but the *agent* pursued a co-management arrangement for mangrove resources and livelihood sustainability with the neighbouring village.

Second, the *agents* made different cost-benefit calculations concerning decision-making on community forestry issues compared to fellow villagers or leaders in neighbouring villages. At the Nepal site, the cost of voluntary forest patrolling work was trivial for the *agent* compared to the value of the forest to him. For most of the villagers, however, the value of the forest was not as great as it was for the *agent*. At the Indonesian site, the *agent* was a highly responsible person in community affairs, and he made a cost-benefit calculus relating to potential effects of the forest-water issue on both a mid- and long-term basis, while leaders at other settlements

understood the potential risk, but hesitated to take actions due to the immediate costs and uncertainty about forest tenure. At the Thailand site, the *agent* did not cease his voluntary effort of supporting the neighbouring village to enrich the resource base even though the work required substantial time and some financial input. Due to the costs involved, his fellow group members did not actually follow the work, although they supported the *agent* in what he was doing.

Third, the *agents* materialized their goals and values by effectively shaping the acts of both themselves and others. It is likely that the evolution processes of community forestry would have been less effective, or perhaps would not have even occurred, unless such prominent *agents* existed. In the Nepal case, the *agent* successfully obtained support from the DFO and village leaders and then the patrolling committee was formed. Without him, unregulated forest use most likely would have continued for several more years or until a forest hand-over took place. In the Indonesian case, the *agent* and other leaders agreed on a collaborative arrangement for resource use with the park office. Without the leaders' agency for the welfare of their community, they would not have responded to the forester in such a positive manner. In the Thailand case, the *agent* was able to convince the leader of the neighbouring village to share his goals and values. Without him, the assistance extended to the neighbouring village to nurture their resource base would not have taken place, although resource exploitation by external actors would have been blocked without the *agent*.

Fourth, while the presence of agency in villages made a difference in community forestry processes at each site, the impacts of each of the outcomes were limited to the sites and areas where the *agents* worked. At the Nepal and Indonesian sites, no impact was observed at neighbouring settlements. At the Thailand site, the influence of the *agent* was significant in the neighbouring village, but did not go beyond that border.

Analytical Characteristics of Agency Perspective

The analysis of community forestry processes through the lens of the agency perspective involves distinctive characteristics in the interpretation of the processes compared with other approaches—that is, it involves looking at actors in a disaggregate manner rather than treating actors in an aggregate manner, which other methods often do.[5] The focus of the agency perspective is primarily to recognize the goals and values of an *agent*, which in many cases refers to one particular individual, and to understand how community forestry processes are affected by social relations. As demonstrated above, there are specific cases where the presence of particular agency, or an act of an *agent*, makes a difference in community forestry processes—such a phenomenon can be pertinently captured through the

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[5] For example, the rational choice approach assumes every individual follows the same calculus as long as external conditions are the same, and the culture and social relationship approach presumes that villagers are embedded in local cultural norms and interdependent relationships so that their choices should be the same within one actor group. The socio-politics or political economy approach analyzes the phenomenon from the structural viewpoint, and the learning process approach often focuses on group learning.

agency analysis but not through other approaches. It should be noted that while agency often involves the concept of leadership, these are not equivalent. An agent plays a leadership role when attempting to materialize goals and values, but the opposite does not hold true, as leaders do not necessarily have goals and values in community forestry even if they are involved in its evolution process. Furthermore, as in the case of Nepal and Thailand, agents do not necessarily take a leadership role from the beginning—they may become a leader as a result of their initiatives.

Focusing on a particular *agent* in analysis inevitably involves a limitation in terms of scope. While human agency in villages does make a difference locally, local changes do not necessarily spread horizontally to other localities or vertically at different scales, such as at the regional and national levels, unless proponents directly address the issues at such localities and levels. Hence, the agency analysis may or may not reveal the linkage of local processes to meso- or macro-level phenomena in case there are linkages between them.

Conclusion and Implications

The agency perspective can be reasonably recognized as one of the distinctive approaches in community forestry analysis, in that human agency at the local level makes a difference in community forestry evolution processes in a way that an individual with agency, or an *agent*, materializes one's goals and values by effectively shaping the acts of oneself and others. The effects of agency roles include not only linking local communities with external resources, as Krishna (2001) argued, but also showing community members a clear future direction and the importance of sharing the direction. Agency analysis at the local level identifies critical factors that are not captured through other approaches, but which actually play important roles in community forestry processes. While human agency is the knowledgeability and capability of a particular individual or individuals, it is not necessarily independent from governance structure at the macro- or meso-levels. At the three case study sites, for example, the non-existence of a legal framework for community forestry at the national level served as a background for the emergence of the *agents*, who took initiatives to fill the gaps between the existing structure and the socially desirable situation.

This conclusion urges external proponents who attempt interventions into community forestry processes to revisit their approaches. From the rational choice viewpoint, for example, pertinent interventions include facilitating a local institution to emerge and evolve in such a way that the institutional arrangement provides positive benefits for individuals (e.g., organizing community meetings for group formation that lowers transaction costs of sustainable forest management). From the socio-politics viewpoint, pertinent interventions include structural reform of forest governance so that individuals benefit from the more equitable distribution of resources (e.g., negotiating with relevant political and administrative actors to establish formal community tenure on forests). However, the purposes of these interventions, which have actually been observed in various locations throughout the world, are not necessarily realized even if serious endeavours are carried out by

interventionists. In such cases, according to these approaches, community forestry processes do not take place because the change of benefit-cost calculus or transformation of governance structure is not materialized.

The agency perspective, in contrast, indicates that even without these conditions, community forestry processes can evolve if there is an individual who holds agency that is sufficient to shape the acts of oneself and others for promoting community forestry. The implication is that interventionists may identify a local actor who holds agency that is conducive for community forestry evolution and then support the actor to develop its processes. It might be an effective intervention for the evolution of community forest processes if local *agents* are linked to differing scales, such as at the regional, national or international levels, so as to mobilize macro effects to communities. In the context of the Indonesian site, for example, the *agent* and the leaders of neighbouring villages might be interested in exploring a possible mechanism of payment for environmental services on their watershed conservation work if they are linked to concerned actors who have been active for the scheme at the international or national level, and collaborative work might evolve. Since all actors possess agency to some degree (Dietz and Burns 1992), it should be possible to find at least one such candidate in any given context. Although no direct impacts of intervention at the regional and national levels would be expected, there are cases in which the effect of agency is the most pertinent in realizing the socially desirable transformation of local forest governance. And of course, the national and international levels are made up of lower level instances of forest governance and it is likely that changes at upper levels do not take place in a vacuum without any experiments or movements at the local level.

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